Course Coordinator: Dr. Robert O Williams III
Pronouns: Email: Bill.Williams@austin.utexas.edu
Phone: 512.471.0942
Office: PHR 3.214
Office Hours: By appointment

Course Unique Number(s): 56945

Classroom(s): PHR 2.208

Class Days/Times: Friday 8:00 am – 11:00 am
Lecture: one 3-hour lecture session each week

Course Faculty: Drs. Feng Zhang, Hugh Smyth, and Robert O Williams III
feng.zhang@austin.utexas.edu; hugh.smyth@austin.utexas.edu; Bill.Williams@austin.utexas.edu
512.471.0942 (Zhang), 512.471.3383 (Smyth), and 512.471.4681 (Williams)
Course Description: This course covers four key topics in solid oral dosage forms of small-molecules drugs: preformulation, formulation, and processing. Preformulation section includes basic physicochemical properties of drug substance. Formulation and process section cover various dosage forms and different processing unit operations.

Course Prerequisites/Co-Requisites: Not applicable

Course Learning Objectives: Student will learn (1) how the basic physicochemical properties of drugs dictate the formulation and processing of solid oral dosage forms, and (2) principles of various unit operations in drug product manufacturing.

Course Success: Lectures notes and reading materials are provided to the students at least one week prior to the lecture. Attendance and active participation in class discussions will provide students with the opportunity to seek clarification and readily apply the material.

Course Website: This course uses Canvas, a Web-based course management system in which a password-protected site is created for each course. Canvas will be used to distribute course materials, to communicate, and to post grades. Canvas is available at http://canvas.utexas.edu. Support is provided by the ITS Help Desk at 475-9400 Monday through Friday 8 am to 6 pm.

Course Communications: Official course communications will take place in class, through e-mail and on the course Canvas website. Students are advised to configure their Canvas settings to forward course announcements to their official e-mail address. Canvas uses only the e-mail address listed on the official University of Texas directory, so please check the University’s online directory to ensure your e-mail address is listed correctly.

Course Video Recordings: A video capture system will be used in this course. The video streams are offered as a supplement to lecture attendance, not as a substitute. Therefore, if technical problems preclude recording the lecture, the lecture will not be re-recorded, but students are still responsible for the content of the lecture. Lecture recordings will be available to you for the balance of the semester unless otherwise specified. Do not expect to have access after the semester is over.

Faculty and students utilizing class video recordings should be careful to not compromise the privacy of either themselves or other users (http://registrar.utexas.edu/students/records/ferpa), or the rights of the presenter. Students are free to make their own recordings of lectures unless specifically prohibited from doing so by the presenter. Any additional distribution of College- or student-generated recordings (regardless of format) is prohibited without the written and signed permission of the presenter and students identifiable on the recording. Likewise, all course materials developed by the faculty member (handouts, PowerPoints, etc.) are the intellectual property of that faculty member and cannot be distributed further without the permission of that faculty member.

Viewing video-streamed recordings of lectures can be streamed on campus or can be viewed off-campus using a
DSL broadband connection. Your faculty are not in a position to troubleshoot your video-streaming problems, so please do not ask them to do so; rather, you should access the LRC’s help website at https://www.utexas.edu/pharmacy/help/ to address those problems. You will find additional information about the lecture capture system or can report technical issues at http://sites.utexas.edu/phr-lrc/
Course Policies

Course Grading Policies:

Course Grade:

Letter grades will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>93-100 A</th>
<th>87-89 B+</th>
<th>77-79 C+</th>
<th>66-69 D+</th>
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<tbody>
<tr>
<td>A</td>
<td></td>
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<tr>
<td>A-</td>
<td>90-92</td>
<td>83-86 B</td>
<td>73-76 C</td>
<td>63-65 D</td>
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<tr>
<td>B</td>
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<td></td>
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<tr>
<td>B-</td>
<td>80-82 B-</td>
<td>70-72 C-</td>
<td>60-62 D-</td>
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Assignments: Homework assignment and class presentation at the end of the semester.

Attendance:

Class Attendance: Required

Excused Absences:
The only absences that will be considered excused are for religious holy days or extenuating circumstances due to an emergency. If you plan to miss class due to observance of a religious holiday, please let the course coordinator know at least two weeks in advance, preferably at the beginning of the semester. You will not be penalized for this absence, although you will still be responsible for any work you will miss on that day if applicable. Check with the course coordinator for details or arrangements.

Attendance at Professional Meetings;

It is the student’s responsibility to ASK permission IN ADVANCE if they plan to attend a professional meeting that would necessitate missing an exam, assignment, or other required course activity. It is at the discretion of the course coordinator as to whether to grant permission and allow the student to make up any missed work.

Required Materials: N/A

Recommended Materials: N/A

Classroom Expectations:

Cell Phones: Cell phones must be put away during class. We will have a break about half way through the lecture and this time may be used to catch up on texts and e-mail. (if applicable)

Laptops: Laptop computer use during class is strictly limited to viewing lecture handouts and taking notes.

Dress Code for Lab: casual
Exam Policies

Exam Format:
1. Homework assignments
2. Presentations at the end of the semester

Final Exam Re-Examination Policy:
The there is no final exam reconsideration requests or re-examinations allowed for this course.

Request for an Alternate Exam Time:
*No allowances will be made for an exam being missed, other than documented illness or emergency, or by prior approval by the Course Coordinator.* An unexcused absence from an exam may result in a grade of "zero" for that exam. Any student requesting accommodation for an upcoming exam must submit the request to the course coordinator using the online form posted on Canvas® at least one month prior to the exam.

Note the new policy that an alternate exam time will be considered *only* if the student documents that they can’t be physically present on the date the exam is already scheduled.¹

Academic Integrity:
Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. See College Policies and Information, and University Policies and Information for more details.

Religious Holy Days
If you will miss a class, an examination, a work assignment or a project in order to observe a religious holy day, you must notify the course coordinator the first week of class so that arrangements for all such students can be made for the full semester.

Services for Students with Disabilities:
Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities at 471-6259 (voice) or 232-2937 (video phone) or [https://diversity.utexas.edu/disability/](https://diversity.utexas.edu/disability/). All University rules concerning accommodations must be followed, including the student arranging for special accommodations *prior to each examination*. In the absence of such *prearrangement*, it will be assumed that the student is not requesting special accommodations for that exam, and will be expected to take the exam with the rest of the class at the regularly scheduled exam time.

Please provide a copy of the letter to the course coordinator and the office of the Associate Dean for Academic Affairs as soon as possible after receipt.
<table>
<thead>
<tr>
<th>Lecture #</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td></td>
<td>Aug 30</td>
<td>Introduction</td>
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<tr>
<td></td>
<td>Sep 6</td>
<td>Properties of drug molecules and substances (1 of 2)</td>
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<td></td>
<td>Sep 13</td>
<td>Properties of drug molecules and substances (2 of 2)</td>
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<td></td>
<td>Sep 20</td>
<td>Polymorphs and pseudopolymorphs – drug substances</td>
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<td>Sep 27</td>
<td>Pharmaceutical salts and cocrystals</td>
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<td></td>
<td>Oct 4</td>
<td>Amorphous solid dispersions</td>
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<td></td>
<td>Oct 11</td>
<td>Immediate release dosage forms</td>
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<td></td>
<td>Oct 18</td>
<td>Modified release dosage forms</td>
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<td></td>
<td>Oct 25</td>
<td>Blending, granulation and tableting</td>
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<td></td>
<td>Nov 1</td>
<td>Guest lecture: Processing Analytical Technology (PAT) by Prof. James Drennen from Duquesne University</td>
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<td>Nov 8</td>
<td>No class – AAPS annual meeting at San Antonio</td>
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<td>Nov 15</td>
<td>Film-coated dosage forms</td>
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<td>Nov 22</td>
<td>Inhalation dosage forms</td>
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<td></td>
<td>Dec 6</td>
<td>Guest lecture: Application of thermodynamic principles in pharmaceutics by Dr. Chen Mao from Genentech</td>
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<td>Dec 13</td>
<td>Student presentations on an assigned topic</td>
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